are significantly correlated to the underactive detrusor in EDS patients with or without OT.
Can we explain this by the conjunctive tissue modification due to EDS? There is a strong correlation between underactive detrusor, respectively PVR and OT. So we can't conclude to any LUTS specific to EDS.
Conclusion.– Dysuria and PVR are frequent in EDS but strongly correlated with the OT.
Further reading
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CO41-003-e

Long-term follow-up and failure predictors of Botox® 300 UI injections in the treatment of neurogenic detrusor overactivity (NDO)

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Keywords: Intravesical botulinum toxin; Neurogenic detrusor overactivity
Objective.– To determine in daily practice, the failure rate of treatment with Botox® 300UI of NDO and analyze the causes of failure and their predictors.
Method.– Retrospective (2002–2011) monocentric study of patients with overactive bladder, treated with 300 IU Botox® and self-catheterized. The evaluation criteria were clinical, urodynamic and ultrasound.
The time to occurrence of failures was estimated by the Kaplan Meir. Groups were compared by the log rank test and Cox model.
Results.– One hundred and eighty-three patients were included (165 SCI, 18 multiple sclerosis (MS)). At 3 years, 152 patients continued injections of intravesical botulinum toxin (83%) and 138 patients after 5 years (75.4%). We differentiated the true failures (32 patients), from discontinuation of treatment for side effects, poor tolerance of injections or neurological outcome.
In the group of MS, there was only one true failure, other patients discontinued treatment for other reasons, including the worsening of the disease.
In the group of patients who failed treatment, we find significantly in univariate analysis:
–leakages after first injection, at 3 years ($p < 0.0001$) and at 5 years ($p < 0.0001$);
–presence of febrile urinary tract infection after 1st injection, at 3 years ($p = 0.01$);
–existence of detrusor overactivity after first injection, at 3 years ($p = 0.05$);
–poor compliance before first injection, at 5 years ($p = 0.04$);
–maximum detrusor pressure after first injection, at 3 years ($p = 0.005$) and at 5 years ($p = 0.0004$).
In multivariate analysis, the following were significantly predictive of failure: leakages after 1st injection a t 3 years ($p = 0.01$) and at 5 years ($p = 0.0004$), sex of patients at 5 years ($p = 0,01$).
The rate of symptomatic urinary tract infections was significantly reduced after toxin injection ($p < 0.0001$).
Conclusion.– This study, which is representative of daily practice in a neuro-urology center, confirmed the effectiveness and safety of injections of 300 IU of Botox®. Some factors seem predictive of failure of intra-detrusor botulinum toxin (i.e. leakage after first injection).

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Continent catheterizable vesicostomy and injections of intravesical botulinum toxin for the treatment of overactive bladder: Case series

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Keywords: Continent cystostomy; Botulinum toxin; Enterocystoplasty; Overactive bladder; Multiple sclerosis
Introduction.– The aim was to evaluate neurologic patients with stable and capacitive bladder under injections of intravesical botulinum toxin who are unable to perform self-intermittent catheterization through the native urethra who need continent vesicostomy, without augmentation enterocystoplasty.
Patients.– We identified all patients with stable neurogenic bladder under injection of botulinum toxin realizing self-catheterization or by a helper but unable to achieve them through unrethra, that underwent a continent vesicostomy between 2008 and 2012. Indication, surgical technique, complications, voiding method and quality of life were analysed.
Results.– We considered four women suffering from spinal cord injury (one) or multiple sclerosis (three), unable to achieve self-catheterization through urethra because of functionnal loss of upper limbs or adductors spasticity or increase of weight. The surgical technique was vesicostomy using the Mitrofanoff principle, without enterocystoplasty, because of bladder stability under médical treatment and comorbidities; the native bladder was fixed to the inner face of the abdominal wall. The mean operation time was 188 min. Minor complications (stoma stenosis and wound dehiscence) and quality of life were not different from patients who underwent enterocystoplasty. One patient had a Bricker three years after first surgery.
Conclusion.– Injection of botulinum toxine for overactive bladder seems to be an alternative to enterocystoplasty when realizing continent cystostomy in neurologic patients with comorbidities like multiple sclerosis. However, evolutivity of the pathology may lead to a second surgery due to inability to achieve catheterization through urethra or loss of efficiency of botulinum toxin.

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Botulinum toxin type A injections in the augmented bladder after failure of augmentation enterocystoplasty in neurological patients: A retrospective multicenter study

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Keywords: Botulinum toxin; Bladder augmentation; Enterocystoplasty; Neurogenic detrusor overactivity; Neurogenic bladder
Objectives.– Augmentation enterocystoplasty (AE) is a third-line treatment for neurogenic detrusor overactivity (NDO). When the outcome of an AE is

incomplete or comes to the end, botulinum toxin type A (BTX-A) injections in the augmented bladder have been proposed. To date, this practice has not been evaluated in the literature. The aim of our study was to describe the practice and evaluate the results of detrusor injections of BTX-A in addition to an AE in patients with refractory NDO.

Methods.– A retrospective multicenter study was conducted by members of the ''Groupe de Neuro-Urologie de Langue Française'' (GENULF), within nine academic centers. All patients ($n = 27$) who benefited from an AE and a supplementary detrusor injection of BTX-A for a NDO were included.

Clinical (epidemiological, surgical, functional) and uro-dynamic data (maximum cystometric capacity, detrusor pressure at first reflex detrusor contraction and at maximum cystometric capacity, reflex detrusor volume, bladder compliance) were collected from the medical files in a standardized questionnaire.

Results.– Twenty-seven patients with various neurological disorders were included: 12 congenital disorders (spina bifida, sacral agenesis), 10 spinal cord injuries, two multiple sclerosis, and three neurogenic bladders of unknown aetiology. AE was performed with ileum in 16 cases and côlon in eight cases. Supratrigonal cystectomy was associated in 15 cases. Primary failure of AE occured in 11 cases and delayed failure in 14 cases. In case of delayed failure, the average duration between AE and failure was 10.4 years (1-26 years). BTX-A injections improved the symptoms, completely or partly, in 15 of 27 cases (55.5%). The clinical succes was associated with a request for reinjection in 14 patients (51,9%).

Conclusions.– In our study, BTX-A injections provided a clinically significant benefit to 55.5% of patients. BTX-A injections are a treatment to consider in case of refractory NDO as a last resort in a patient who previously had an AE.

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Bacterial ecology and antibiotic resistance in patients with neurogenic overactive bladder treated by botulinum toxin injections

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Keywords: Botulinum toxin A; Neurogenic overactive bladder; Multiple sclerosis; Spinal cord injury; Bacterial ecology; Antibiotic resistance

Botulinum toxin A is the gold standard fort the treatment of neurogenic overactive bladder. These patients mostly use clean intermittent self catheterization. Colonisations are frequent and detrusor injections are at risk for infections.

Objective.– To study the prevalence of different bacterias and their resistance to antibiotics in a population with neurogenic overactiv bladder treated with botulinum toxin injections.

Material and methods.– This prospective study took place from september to october 2012 in a neuro-urology unit in a universitary hospital. Eighty-one patients had a uroculture before the injection. They all had on overactive bladder confirmed by urodynamic study. We determined the prevalences of different bacterias and their resistance rate for each antibiotic class.

Results.– Forty-six bacterias were identified on 45 urocultures. An *Escherichia coli* was identified in 43.21%, 7.41% *Klebsiella pneumoniae*, 2.47% *Citrobacter freundii* and *enterococcus*, 1.23% *Staphylococcus aureus*. Penicillin resistance was found in 52.17%, to third generation cephalosporins in 10.87%, to fluoroquinolon in 28.26% and to sulfamid in 26.09%. There was no resistance for fosfomycin.

Discussion.– We found less colonisation rates than what's described in the litterature for patients using clean intermittent self catheterization (52% versus 60 to 70%). [1] There was no resistance to fosfomycin; however the benefit for systematic prophylaxis in case of sterile uroculture had never been proven (despite the recommendations for the French authorization of drug use in this indication.) [2]

Conclusion.– We found high frequency of *E. coli* in patients using clean intermittent catheterization. All bacteria were sensible to fosfomycin, which suggest its preferential use for probabilistic prophylaxis before botulinum injections for the treatment of neurogenic overactive bladder.

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